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Sequence Listing was accepted.

If you need help call the Patent Electronic Business Center at (866) 217-9197 (toll free).

Reviewer: Durreshwar Anjum

Timestamp: [year=2010; month=3; day=4; hr=9; min=20; sec=57; ms=546;]
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                    Validated By CRFValidator v 1.0.3

        Application No:        10575505          Version No:           2.0


                    Input Set:


                    Output Set:



                       Started:   2010-03-01 16:51:10.259
                      Finished:   2010-03-01 16:51:13.402
                       Elapsed:   0 hr(s) 0 min(s) 3 sec(s) 143 ms
               Total Warnings:    28
                 Total Errors:    0
          No. of SeqIDs Defined:  28
          Actual SeqID Count:     28
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Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (1)
W 213	Artificial or Unknown found in <213> in SEQ ID (2)
W 402	Undefined organism found in <213> in SEQ ID (3)
W 402	Undefined organism found in <213> in SEQ ID (4)
W 213	Artificial or Unknown found in <213> in SEQ ID (5)
W 213	Artificial or Unknown found in <213> in SEQ ID (6)
W 213	Artificial or Unknown found in <213> in SEQ ID (7)
W 402	Undefined organism found in <213> in SEQ ID (8)
W 213	Artificial or Unknown found in <213> in SEQ ID (9)
W 213	Artificial or Unknown found in <213> in SEQ ID (10)
W 213	Artificial or Unknown found in <213> in SEQ ID (11)
W 402	Undefined organism found in <213> in SEQ ID (12)
W 213	Artificial or Unknown found in <213> in SEQ ID (13)
W 213	Artificial or Unknown found in <213> in SEQ ID (14)
W 213	Artificial or Unknown found in <213> in SEQ ID (15)
W 213	Artificial or Unknown found in <213> in SEQ ID (16)
W 213	Artificial or Unknown found in <213> in SEQ ID (17)
W 213	Artificial or Unknown found in <213> in SEQ ID (18)
W 402	Undefined organism found in <213> in SEQ ID (19)
W 402	Undefined organism found in <213> in SEQ ID (20)

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              Input Set:


             Output Set:


               Started:   2010-03-01 16:51:10.259
              Finished:   2010-03-01 16:51:13.402
               Elapsed:   0 hr(s) 0 min(s) 3 sec(s) 143 ms
        Total Warnings:   28
          Total Errors:   0
  No. of SeqIDs Defined:   28
     Actual SeqID Count:   28
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Error code   Error Description

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W  213        Artificial or Unknown found in <213>  in SEQ ID (22)

W  213        Artificial or Unknown found in <213>  in SEQ ID (23)

W  213        Artificial or Unknown found in <213>  in SEQ ID (24)

W  213        Artificial or Unknown found in <213>  in SEQ ID (25)

W  213        Artificial or Unknown found in <213>  in SEQ ID (26)
              This error has occured more than 20 times, will not be displayed
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1   5   10   15

Glu Glu Thr Ala Thr Ala Gly Gly Ile Ile Leu Pro Gly Ala Ala Ala
            20   25   30

Glu Lys Pro Asn Gln Gly Val Val Ile Ser Val Gly Thr Gly Arg Ile
        35   40   45

Leu Asp Asn Gly Ser Val Gln Ala Leu Ala Val Asn Glu Gly Asp Val
    50   55   60

Val Val Phe Gly Lys Tyr Ser Gly Gln Asn Thr Ile Asp Ile Asp Gly
65   70   75   80

Glu Glu Leu Leu Ile Leu Asn Glu Ser Asp Ile Tyr Gly Val Leu Glu
                85   90   95

Ala

<210> 2
<211> 548
<212> PRT
<213> artificial sequence

<220>
<223> Cpn60 of Oleispira antarctica

<400> 2

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1   5   10   15

Leu Val Gly Val Asn Ile Leu Ala Asp Ala Val Arg Val Thr Leu Gly
                20   25   30

Pro Lys Gly Arg Asn Val Val Ile Glu Lys Ser Phe Gly Ala Pro Ile
                35   40   45

Ile Thr Lys Asp Gly Val Ser Val Ala Arg Glu Ile Glu Leu Lys Asp
        50   55   60

Lys Phe Glu Asn Met Gly Ala Gln Met Val Lys Glu Val Ala Ser Gln
65   70   75   80

Ala Asn Asp Gln Ala Gly Asp Gly Thr Thr Thr Ala Thr Val Leu Ala
                85   90   95

Gln Ala Ile Ile Ser Glu Gly Leu Lys Ser Val Ala Ala Gly Met Asn
                100   105   110

Pro Met Asp Leu Lys Arg Gly Ile Asp Lys Ala Thr Ala Ala Val Val
                115   120   125

Ala Ala Ile Lys Glu Gln Ala Gln Pro Cys Leu Asp Thr Lys Ala Ile
        130   135   140

Ala Gln Val Gly Thr Ile Ser Ala Asn Ala Asp Glu Thr Val Gly Arg
145   150   155   160

Leu Ile Ala Glu Ala Met Glu Lys Val Gly Lys Glu Gly Val Ile Thr
                165   170   175

Val Glu Glu Gly Lys Gly Leu Glu Asp Glu Leu Asp Val Val Glu Gly
                180   185   190

Met Gln Phe Asp Arg Gly Tyr Leu Ser Pro Tyr Phe Ile Asn Asn Gln
                195   200   205

Glu Lys Met Thr Val Glu Met Glu Asn Pro Leu Ile Leu Leu Val Asp
                210   215   220

Lys Lys Ile Asp Asn Leu Gln Glu Leu Leu Pro Ile Leu Glu Asn Val
225   230   235   240

Ala Lys Ser Gly Arg Pro Leu Leu Ile Val Ala Glu Asp Val Glu Gly
                245   250   255

Gln Ala Leu Ala Thr Leu Val Val Asn Asn Leu Arg Gly Thr Phe Lys
                260   265   270

Val Ala Ala Val Lys Ala Pro Gly Phe Gly Asp Arg Arg Lys Ala Met
                275   280   285

Leu Gln Asp Leu Ala Ile Leu Thr Gly Gly Gln Val Ile Ser Glu Glu
                290   295   300

Leu Gly Met Ser Leu Glu Thr Ala Asp Pro Ser Ser Leu Gly Thr Ala
305   310   315   320

Ser Lys Val Val Ile Asp Lys Glu Asn Thr Val Ile Val Asp Gly Ala
                325   330   335

Gly Thr Glu Ala Ser Val Asn Thr Arg Val Asp Gln Ile Arg Ala Glu
                340   345   350

Ile Glu Ser Ser Thr Ser Asp Tyr Asp Ile Glu Lys Leu Gln Glu Arg
                355   360   365

Val Ala Lys Leu Ala Gly Gly Val Ala Val Ile Lys Val Gly Ala Gly
                370   375   380

Ser Glu Met Glu Met Lys Glu Lys Lys Asp Arg Val Asp Asp Ala Leu
385   390   395   400

His Ala Thr Arg Ala Ala Val Glu Glu Gly Val Val Ala Gly Gly Gly
                405   410   415

Val Ala Leu Ile Arg Ala Leu Ser Ser Val Thr Val Val Gly Asp Asn
                420   425   430

Glu Asp Gln Asn Val Gly Ile Ala Leu Ala Leu Arg Ala Met Glu Ala
                435   440   445

Pro Ile Arg Gln Ile Ala Gly Asn Ala Gly Ala Glu Gly Ser Val Val
                450   455   460

Val Asp Lys Val Lys Ser Gly Thr Gly Ser Phe Gly Phe Asn Ala Ser
465   470   475   480

Thr Gly Glu Tyr Gly Asp Met Ile Ala Met Gly Ile Leu Asp Pro Ala
                485   490   495

Lys Val Thr Arg Ser Ser Leu Gln Ala Ala Ala Ser Ile Ala Gly Leu
                500   505   510

Met Ile Thr Thr Glu Ala Met Val Ala Asp Ala Pro Val Glu Glu Gly
                515   520   525

Ala Gly Gly Met Pro Asp Met Gly Gly Met Gly Gly Met Gly Gly Met
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Pro Gly Met Met
545

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<212>   DNA
<213>   Oleispira antarctica

<400>   3
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tactcgtccc cgcgacgcgt aaagcgttgg tccataaggt gattgcattt attacccctc   180

gcatgatgac tgcaagcagc tttcaagcga cgggtagttt tcaggaaggc tcgtttaaag   240

atgtacattc gcacactgac tcgcaaagca gtcatgaaaa aatcacaatt gaaggcgaat   300

ataccaaaga cgataagtag gtattttttc ggctagccgt tgaaatccta gtaaaagccc   360

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tcgtattgtt gttcgccgta aagaagaaga gaccgcaact gcgggtggta ttattttacc        540

gggcgctgcg gcagaaaaac caaatcaagg tgttgttatc tctgtgggta ctggccgtat        600

tcttgataat ggttcagtgc aagcgctggc ggttaacgaa ggcgatgttg tcgttttttgg       660

taaatactca ggtcaaaata ctatcgatat cgatggtgaa gaattattga ttttgaatga        720

aagtgatatc tacggcgttt tagaagctta attattacac tcactttttt atttaaccta        780

caaaatttaa ggaaagatca tggctgctaa agacgtatta tttggtgata gcgcacgcgc        840

aaaaatgttg gtaggtgtaa acattttagc cgacgcagta agagttacct taggacctaa        900

aggtcgtaac gttgttatag aaaaatcatt tggtgcaccg atcatcacca aagatggtgt        960

ttctgttgcg cgtgaaatcg aattgaaaga caaattcgaa aacatgggcg cacagatggt       1020

taaggaagtt gcttctcaag ccaacgacca agccggtgac ggcacaacga cagcgactgt       1080

actagcacag gcgattatca gcgaaggctt gaaatctgtt gcggctggca tgaatccaat       1140

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agctcagcct tgcttggata caaaagcaat cgctcaggta gggacaatct ctgccaatgc       1260

cgatgaaacg gttggtcgtt taattgctga agcgatggaa aaagtcggta agaaggtgt        1320

gattaccgtt gaagaaggca aaggccttga agacgagctt gatgttgtag aaggcatgca       1380

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aatggaaaat ccattaattc tattggttga taagaaaatt gataaccttc aagagctgtt       1500

gccaattctt gaaaacgtcg ctaaatcagg tcgtccatta ttgatcgttg ctgaagatgt       1560

tgaaggccaa gcactagcaa cattggtagt aaacaacttg cgcggcacat tcaaggttgc       1620

agcggttaaa gcccctggtt ttggcgatcg tcgtaaagcg atgttgcaag atcttgccat       1680

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tggcgcaggt actgaagcaa gcgttaatac tcgtgttgac cagatccgtg ctgaaatcga       1860

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cggcgttgcc gtgattaagg ttggtgcggg ttctgaaatg gaaatgaaag agaagaaaga       1980

ccgtgttgac gatgcacttc atgcaactcg cgcagcggtt gaagaaggtg ttgttgcggg       2040
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gggtaacgca ggtgctgaag ggtcagtggt tgttgataaa gtgaaatctg cacaggtag       2220

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ccctgcaaaa gtcacgcgtt catctctaca agccgcggcg tctatcgcag gtttgatgat      2340

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tgttgagttc ctctgggtgg catgatctca tggtacttca cttaagcctg attcactgcg      2700

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<211> 333
<212> PRT
<213> Oleispira antarctica

<400> 4

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Met Lys Asn Thr Leu Lys Ser Ser Ser Arg Phe Ser Leu Lys Gln Leu
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Gly Thr Gly Ala Leu Ile Ile Ser Ser Leu Phe Phe Gly Gly Cys Thr
            20                  25                  30


Thr Thr Gln Gln Asp Asn Leu Tyr Thr Gly Val Met Ser Leu Ala Arg
        35                  40                  45


Asp Ser Ala Gly Leu Glu Val Lys Thr Ala Ser Ala Gly Asp Val Asn
    50                  55                  60


Leu Thr Tyr Met Glu Arg Gln Gly Ser Asp Lys Asp Asn Ala Glu Ser
65                  70                  75                  80


Val Ile Leu Leu His Gly Phe Ser Ala Asp Lys Asp Asn Trp Ile Leu
                85                  90                  95
```

Phe Thr Lys Glu Phe Asp Glu Lys Tyr His Val Ile Ala Val Asp Leu
            100   105   110

Ala Gly His Gly Asp Ser Glu Gln Leu Leu Thr Thr Asp Tyr Gly Leu
            115   120   125

Ile Lys Gln Ala Glu Arg Leu Asp Ile Phe Leu Ser Gly Leu Gly Val
            130   135   140

Asn Ser Phe His Ile Ala Gly Asn Ser Met Gly Gly Ala Ile Ser Ala
145   150   155   160

Ile Tyr Ser Leu Ser His Pro Glu Lys Val Lys Ser Leu Thr Leu Ile
            165   170   175

Asp Ala Ala Gly Val Asp Gly Asp Thr Glu Ser Glu Tyr Tyr Lys Val
            180   185   190

Leu Ala Glu Gly Lys Asn Pro Leu Ile Ala Thr Asp Glu Ala Ser Phe
            195   200   205

Glu Tyr Arg Met Gly Phe Thr Met Thr Gln Pro Pro Phe Leu Pro Trp
            210   215   220

Pro Leu Arg Pro Ser Leu Leu Arg Lys Thr Leu Ala Arg Ala Glu Ile
225   230   235   240

Asn Asn Lys Ile Phe Ser Asp Met Leu Lys Thr Lys Glu Arg Leu Gly
            245   250   255

Met Thr Asn Phe Gln Gln Lys Ile Glu Val Lys Met Ala Gln His Pro
            260   265   270

Leu Pro Thr Leu Ile Met Trp Gly Lys Glu Asp Arg Val Leu Asp Val
            275   280   285

Ser Ala Ala Ala Ala Phe Lys Lys Ile Ile Pro Gln Ala Thr Val His
            290   295   300

Ile Phe Pro Glu Val Gly His Leu Pro Met Val Glu Ile Pro Ser Glu
305   310   315   320

Ser Ala Lys Val Tyr Glu Glu Phe Leu Ser Ser Ile Lys
                325   330

<210> 5
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<212> DNA
<213> artificial sequence

<220>

<223> DNA fragment from plasmid pBK1Est coding for esterase of
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ctggctgagt tcagcgtcat aatgccgatg cgatactggc cgtcatgact gagtacttct   180

tctgctagca ccgatttttc taatagcgca gcttctttta tttctgaacg ggcaactgat   240

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actgttcata ttacaatcat agtacaggct agaggcccaa aattgcagct gatattcacc   360

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acccgtagcg gaaaaattca gcaaatagcc aaagaaaacg attggcaata ccaagaattc   480

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tttgactgtc gagcgttaga accttcaggt attcacaata gcagtcttat tttatttacc   660

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aaagatgcct tcactgacat cagtcaccaa caatcaatca acaccaata ccaatcgcaa   780

aaactcataa aactagccga tcaccaaatc ccaaaagcgt tcaaaaatga aacgagcacg   840

tcacacaaaa tcaatttata cgctaacgaa ccaggtcaaa cttatcgttt ttttgagcac   900

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cttcacatag aaattagtaa tggcatgcta ctggccttta aaaagaatca gttaattgaa   1020

gaaacctcgc ttatctcagc cattaccgct gtagccgaat ttgcgcttat cctcagccat   1080

gattaaactg acgccaatta atataagaca tactaattaa taactccctt aattgagaag   1140

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cgctctgatt atctccagtt tgttcttcgg tggttgcacc acaacacaac aagataattt   1260

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agaattcgat gaaaaatatc atgttatcgc tgtcgattta gcgggacatg gcgattcaga      1500

acaattatta acgactgatt acggtctcat aaaacaagcc gagcgtttag atatcttctt      1560

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cgcaatctac agtttgagtc acccagagaa agttaaaagt cttacattga tcgatgcagc      1680

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gatcaataac aaaatttttt ccgatatgct gaaaaccaaa gaacgtttag gaatgactaa      1920

ctttcaacag aaaattgaag tgaaaatggc tcaacatcca ttgccaacac tgattatgtg      1980

gggcaaagaa gatcgcgttc ttgacgtatc cgcagcagcg gccttcaaaa aaataattcc      2040

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attgcagtgc caccgaataa cgtatcatga tgatttgttg tctctggaaa taccgcttta      2580

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agaccagtga taatatttca tcttgccatg agagcttatc atgaaagcct gtgcttaaaa      2820

tcaatcatta tatttattca tctttaattg aaataatacc aatatatttc atatataatt      2880

tcacactacc cttatctcac tagacttccc gcgcataggc gcaaacaatc aacgcaagtt      2940

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gctcattaaa aacgcaccac tggcaagaag ttctacctgc actgaccaat atgcaagcgg       3240

cggcggaaga gctgcctttg atcgatcaag aagaagggag cagcaaagag gaaaacaatc       3300

aaaaagagga gagcaatcaa ataaaaacga gttattgagg attttaattt taaaacaggt       3360

atattaatac cctctctcgt agtaaacaat gactgtattt acacaaaaat aaatagaggt       3420

ataccatgtc aaacatctgg tttgaagtac caaagattga agtattaaac cgtcaaatgg       3480

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ctggcacaat gccagcagat gcacgtacct tccagccaat gggactgatt catggcggct       3600

caaatgtatt gctggcagaa acactgggca gcatggcagc taactgctgt attaatttgt       3660

ctcaagaata ttgtgttggc caagaaatta acgccaacca catacgcggt gttcgttccg       3720
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